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imagery analysis report

Large Transport Aircraft Development Program in the Soviet Union (S)



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LARGE TRANSPORT AIRCRAFT DEVELOPMENT PROGRAM IN THE SOVIET UNION (S)

INTRODUCTION

1. (S/WN) Analysis of imagery of three Soviet facilities associated with the Antonov Experimental Design Bureau (OKB) indicates that a large transport aircraft comparable in size to the United States C-5A (GALAXY) is being developed. The Antonov OKB was responsible for the successful development of several transport aircraft currently in military and civilian service. One of these, the COCK, is currently the largest aircraft in the Soviet inventory. The facilities involved in this program are Kiyev Airframe Plant 473 [redacted] Figure 1), which is the home of the Antonov OKB;¹ Tashkent Airframe Plant B Chkalov 84 [redacted] Figure 2); Tashkent Airfield [redacted] Figure 2) and its associated flyaway field, where the AN-22 (COCK) aircraft was

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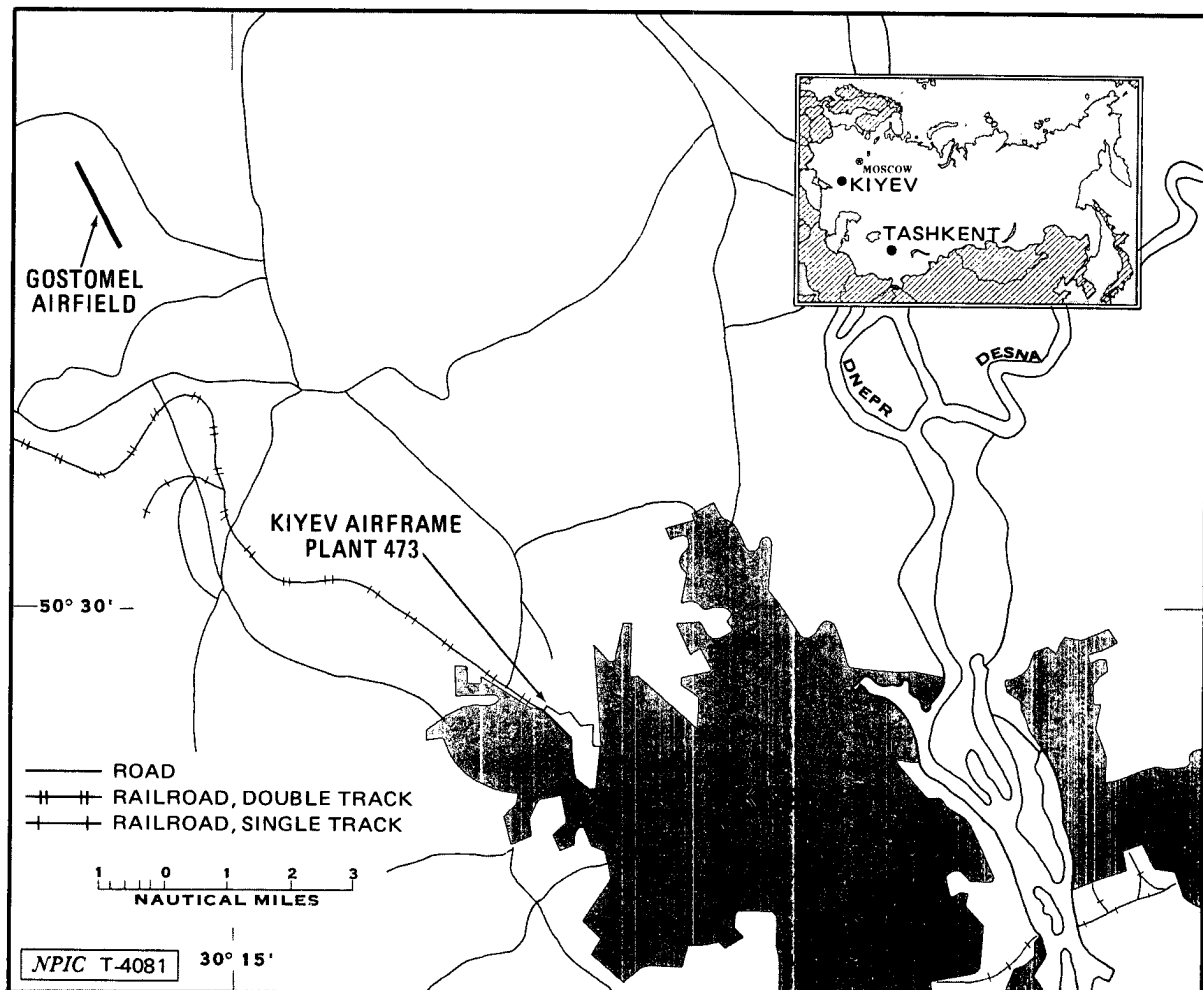
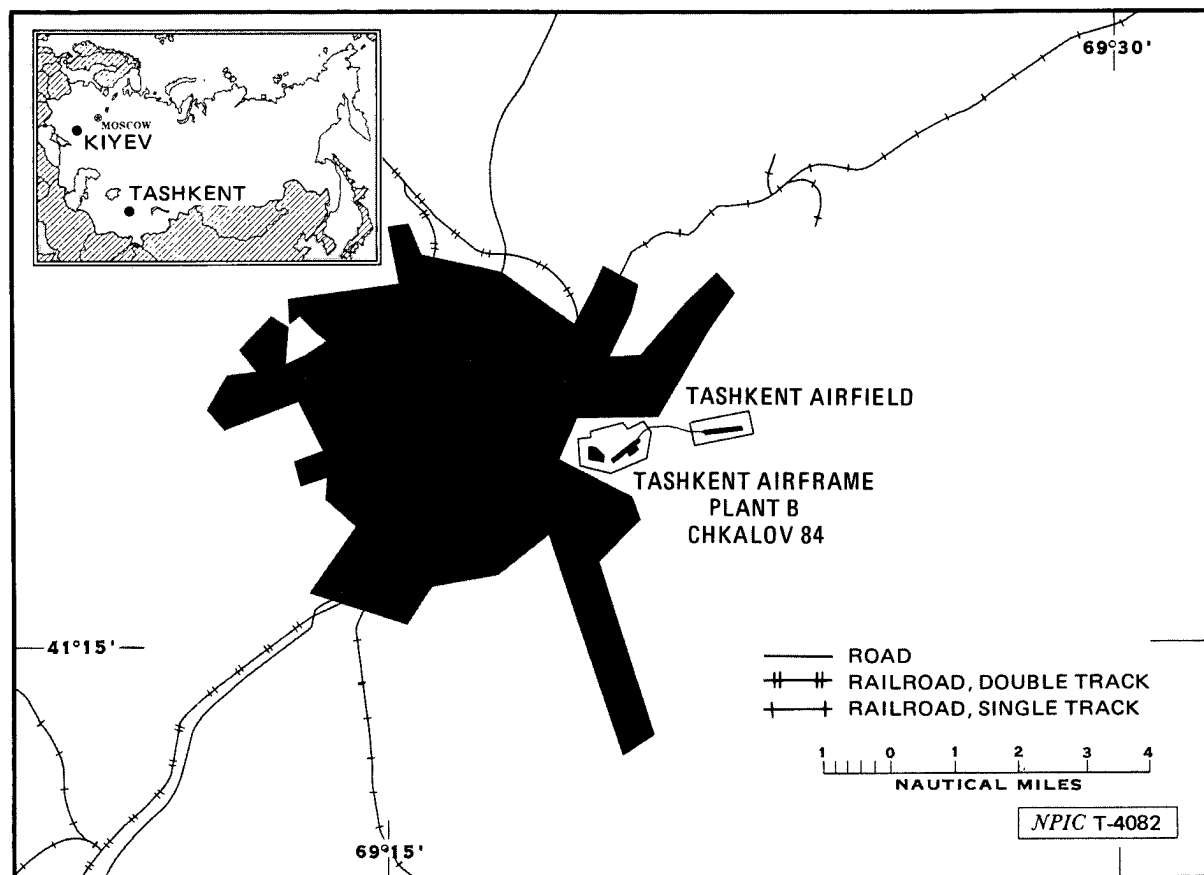


FIGURE 1. LOCATION OF KIEV AIRFRAME PLANT AND GOSTOMEL AIRFIELD, USSR

SECRET**FIGURE 2. LOCATION OF TASHKENT AIRFRAME PLANT AND TASHKENT AIRFIELD**

previously produced and is currently overhauled;² and Gostomel Airfield [REDACTED], which serves as the flight test center for aircraft designed by the Antonov OKB.¹ In addition, a recently modified CANDID A, which may be associated with this development program, is also discussed in this report.

2. (S/WN) This report contains two location maps, 12 annotated photographs, and a table with the dimensions of the aircraft discussed in this report.

Table 1.
Dimensions of the COCK,
GALAXY, and New Antonov Transport

This table in its entirety is classified SECRET/WNINTEL [REDACTED]

Aircraft	Overall Length*	Wing Span*
COCK	58	65
GALAXY	75	68
New Antonov Transport (AN 400) ⁴	72**	75**

* Dimensions in meters

** Estimated dimensions

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DESCRIPTION

Structural Test Facility Expansion at Kiyev

3. (S/WN) A large hydrostatic test basin, originally constructed for structural testing of a COCK fuselage, has been recently expanded. The basin is one component of the Antonov OKB's hydrostatic test facility located at the northern end of Kiyev Airframe Plant. A COCK fuselage was within the 56- by 10-meter test basin from May 1971 through April 1981. By [] the western end of the basin had been removed and footings for lengthening this structure had been emplaced (Figure 3). The COCK fuselage, which had occupied the basin, had been moved to the large aircraft parking/maintenance apron in the Antonov OKB test area (Figure 4). A 14-meter enlargement of the hydrostatic test basin had been completed by [] which increased the overall length of the basin to 70 meters (Figure 5). The width remained at 10 meters.

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COCK Modified to Transport Large Aircraft Components

4. (S/WN) A modified COCK was recently used to transport a large aircraft wing from Tashkent to Kiyev. The modifications to the COCK consist of two raised blisters/hardpoints atop the fuselage immediately aft of the wing box and a centerline-mounted third vertical stabilizer (Figure 6). In addition, a removable boat-shaped support structure, used to carry the wing, has also been observed on this aircraft.

5. (S/WN) The modified COCK, distinguishable from other military-marked COCK by its dark-toned horizontal stabilizer and two-toned wing, is probably a developmental aircraft operated by the Antonov OKB. This aircraft, without modifications, was regularly seen at Gostomel Airfield from September 1973 through July 1979. The COCK with the fuselage blisters/hardpoints was subsequently observed at both Tashkent and Kiyev during 1980 (Figure 7). Throughout 1981, the modified COCK underwent major wing and wing box maintenance/overhaul at Tashkent Airfield (Figure 8). The third vertical stabilizer and the boat-shaped support structure were first identified on the aircraft at Tashkent in February 1982 (Figure 9). On [] a large wing was mounted lengthwise atop the modified COCK at Tashkent. The aircraft and wing were seen at Mozdok Airfield [] where the COCK stopped en route to Kiyev (Figure 10). On [] the modified COCK was at Kiyev, parked outside the new, 217-by 96-meter final assembly building which has been under construction since February 1978 (Figure 11). The large wing had been removed and was probably inside the final assembly building. The wing was the longest ever identified in the Soviet Union and had an overall length of [] a wing root of [] and a wing tip chord of []

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Production and Test Facility Construction Probably To Support New Large Aircraft Program

6. (S/WN) Ongoing construction at both Kiyev and Gostomel is probably intended to support the development of the new large aircraft. The large final assembly building has been under construction at Kiyev since February 1978 and a large maintenance fitting-out apron immediately north of the new final assembly building has been completed (Figure 12). This apron is connected by a taxiway to a 102-meter-diameter concrete compass rose. In addition, a 100- by 96-meter

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maintenance/fitting-out hangar, a large steam/heat plant, and several shop and storage/support buildings were also observed under construction at Kiyev. At Gostomel, the concrete runway, under construction since September 1973, was 2,680 meters long and 57 meters wide by March 1982. This runway has been connected to the airfield maintenance and support areas by a concrete taxiway (Figure 13). In November 1981, construction began on a large aircraft parking/-maintenance hardstand adjacent to the new taxiway. Expansion of the airfield support facilities has also been observed.

CANDID A Modified for Use as a Large Turbofan Engine Testbed

7. (S/WN) A specially modified CANDID A, [] was recently identified at Ramenskoye Flight Test Center [] with a large probable turbofan engine. On [] [] a CANDID A, with possible [] was outside the western assembly building at Tashkent Airframe Plant. Four standard D-30 engines were observed on this aircraft. By [] the port side inboard engine had been removed. CANDID A [] remained at the airframe plant through [] During this time, the inner portion of the port side wing leading edge and inboard engine pylon were removed. From [] CANDID A [] was observed at Tashkent Airfield. The port-side wing leading edge and inboard pylon were in place but no engine was mounted on this pylon. This aircraft was at Ramenskoye on [] A new engine, noticeably wider than the standard D-30 engines, was mounted on the port-side inboard engine pylon (Figure 14). CANDID A [] was regularly observed on the transient parking apron at Ramenskoye throughout April.

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8. (S/WN) The large engine on CANDID A [] was approximately [] in diameter and extended approximately 6 meters forward of the wing leading edge. These dimensions are similar to those for several western-designed, high by-pass ratio turbofans, including the General Electric TF-39, which powers the GALAXY.³ The TF-39 was initially flight tested on the starboard side inboard pylon of a modified Boeing B-52E.

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Imagery Analyst's Comments

9. [] This imagery-derived analysis of events, construction, and activity at Kiyev, Tashkent, and Gostomel, as well as the identification of a large new engine, is evidence supporting these reports. The following conclusions can be drawn:

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- a. The large aircraft wing identified in March was produced at Tashkent Airframe Plant, and this plant may also produce other components for the new aircraft;
- b. The shipment of the wing to Kiyev and the extensive construction currently underway indicates that Kiyev will be involved in the final assembly of the large aircraft prototypes;
- c. The enlarged hydrostatic test basin at Kiyev will be used for the structural testing of this aircraft;
- d. Modified CANDID A [] is being used as an engine testbed for a large probable turbofan engine—possibly to be used by the new transport; and
- e. The initial flight test program of the new transport will be conducted at Gostomel Airfield.

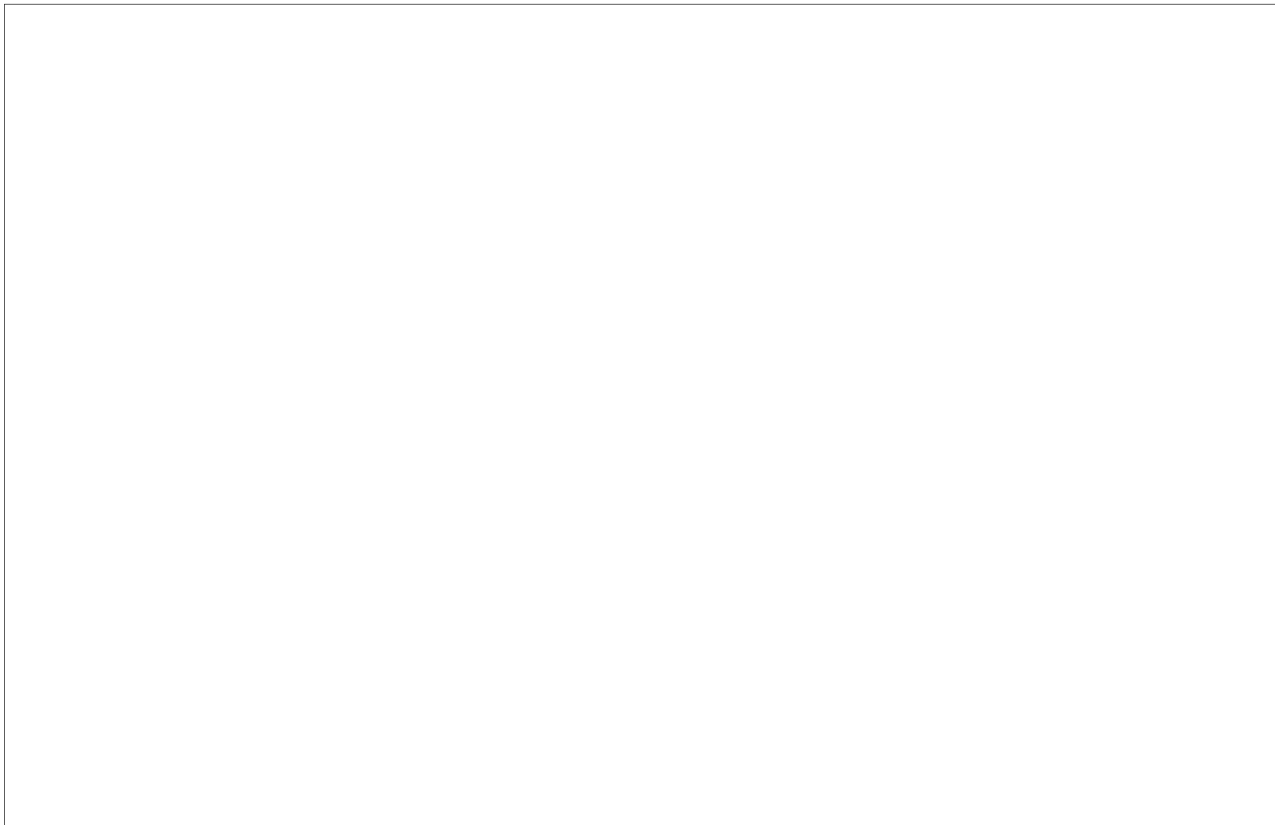
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REFERENCES

IMAGERY

(S/WN) All available satellite imagery acquired between [] the information cutoff date, was used in the preparation of this report.

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MAP OR CHART

DMA. US Air Target Chart, Series 200, Sheet 0233-8, scale 1:200,000 (SECRET)

DOCUMENTS

1. DIA. DST-1830S-104-81, *Soviet Aviation Industry Design and Development Resources—USSR (U)*, 9 Jul 81 (SECRET [])
2. NPIC. [] RCA-09/0018/78, *Tashkent Airframe Plant B, Chkalov 84 (S)*, Jul 78 (TOP SECRET [])
3. *Jane's All the World's Aircraft*, 1968—1969, p648 (UNCLASSIFIED)
4. CIA. 00-K-323/17964-81, *Antonov Design Plant Development of the 600 Passenger Izdelye-400 Aircraft*, 12 Aug 81 (CONFIDENTIAL [])

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(S) Comments and queries regarding this report are welcome. They may be directed to [] Warsaw Pact Forces Division, Imagery Exploitation Group, NPIC, []

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